

Message Text

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EXDIS-USIAEA

E.O. 11652: XGDS-3

TAGS: IAEA, PARM, TW

SUBJECT: SAFEGUARDS PROCEDURES AT TRR

REFERENCE: (A) VIENNA 2771, (B) STATE 70201

1. SUPPLEMENTAL TO REPORT IN REFTTEL (A), MISSION IS REQUESTED TO APPROACH THORNE AND/OR ROMETSCH ON CONFIDENTIAL BASIS TO OBTAIN IAEA VIEWS RE MARCH 18 ROC/IAEA DISCUSSIONS. DURING APPROACH, MISSION MAY DRAW UPON BUT NOT PROVIDE COPY OF PARAGRAPHS 2, 3, 4, AND 6 BELOW.

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2. RE PARA 2 OF REF (A), THE FOLLOWING USG UNDERSTANDING CONCERNING SAFEGUARDS AT THE TRR WAS TRANSMITTED TO THE ROC ON 27 DECEMBER 1977 AND THE ROC INFORMED THE US OFFICIALLY ON 20 FEBRUARY 1978 THAT IT WILL MAKE APPROPRIATE ARRANGEMENTS WITH THE IAEA PRIOR TO THE RESUMPTION OF TRR OPERATION. BEGIN QUOTE. (1) THE IAEA WILL VERIFY THAT THE REACTOR CURRENTLY CONTAINS NO FUEL ELEMENTS OR

SAMPLE RODS. THEREAFTER, THE IAEA WILL ACCOUNT FOR, VERIFY BY MEASUREMENT AND WITNESS THE LOADING OF ALL FUEL ELEMENTS AND SAMPLE RODS, WHETHER NEW OR PREVIOUSLY IRRADIATED, INTO THE REACTOR. (2) THE IAEA WILL SEAL THE FUEL ROD FLASK (REFUELING MACHINE) IN A NON-OPERATIVE POSITION AFTER COMPLETION OF ABOVE. (3) THE OPERATION OF THE TRR WILL ENTAIL SCHEDULED RELOADING ON A REGULAR, PERIODIC BASIS, IN THE PRESENCE OF AN IAEA INSPECTOR WHO WILL REMOVE THE SEAL FROM THE FUEL ROD FLASK; WITNESS THE UNLOADING OF THE SPENT FUEL (AND SAMPLE RODS) AND ITS REMOVAL TO THE SPENT FUEL STORAGE AREA; ACCOUNT FOR AND VERIFY ALL FRESH FUEL (AND SAMPLE RODS) TO BE LOADED; WITNESS THE LOADING; AND RESEAL THE FUEL ROD FLASK. (4) IF THE FUEL ROD FLASK IS REQUIRED BY THE REACTOR OPERATOR FOR AN EMERGENCY OPERATION TO REMOVE IRRADIATED FUEL, THE IAEA SEAL MAY BE BROKEN AND THE IRRADIATED FUEL MAY BE MOVED TO WET STORAGE OR TO A DESIGNATED AREA IN THE COOLING POND, BUT THE IAEA MUST BE NOTIFIED OF THIS ACTION IMMEDIATELY. IN THIS CASE, FUEL RELOADING SHALL AWAIT THE ARRIVAL OF AN INSPECTOR TO REVIEW THE SURVEILLANCE SYSTEM RECORDS, ACCOUNT FOR AND VERIFY ALL FRESH FUEL AND SAMPLE RODS TO BE LOADED, WITNESS THE LOADING THEREOF, RESEAL THE FUEL ROD FLASK, AND ACCOUNT FOR ALL IRRADIATED FUEL RODS REMOVED FROM THE REACTOR UNDER THE EMERGENCY CONDITION. END QUOTE.

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3. AMONG THE REASONS FOR THE ARRANGEMENTS SPECIFIED IN POINT (1) OF PARA 2 ABOVE ARE: (A) THERE ARE SEVERAL TYPES OF RODS USED AT TRR WHICH CAN BE DISTINGUISHED WITH CERTAINTY ONLY BY MEASUREMENT, (B) UNTIL NOW, LACK OF ACCESS TO THE FUEL IN THE REACTOR CORE HAS MADE IT IMPOSSIBLE TO CLOSE A VERIFIED MATERIAL BALANCE AT TRR SINCE JANUARY 1973, AND (C) RESTART OF THE TRR WITH UN-VERIFIED PARTIALLY IRRADIATED FUEL RODS WOULD PERPETUATE THE MATERIAL BALANCE UNCERTAINTY UNTIL ALL OF THESE RODS WERE FINALLY DISCHARGED TO THE COOLING POND, A PERIOD OF UP TO FOUR YEARS AS JUDGED BY ACCUMULATED DISCHARGES DURING 1973 TO 1976. CONSEQUENTLY, VERIFICATION BY MEASUREMENT OF ALL OF THE FUEL ELEMENTS AND SAMPLE RODS OF THE RELOAD CORE IS THE BEGINNING FOR THE SPECIAL SAFEGUARDS REGIME AT TRR. IN VIEW OF THE FACT THAT THE ROC HAS REQUESTED THE IAEA TO IMPLEMENT THE SPECIAL SAFEGUARDS MEASURES WITHOUT ANY EXCEPTION (SEE ITEM A, PARA 1, REFTEL A), THE MATTER UNDER DISCUSSION IS EFFECTIVE IMPLEMENTATION AND NOT SUBSTITUTE ARRANGEMENTS; US HOPES IAEA WILL COMPLY WITH THIS ROC REQUEST. FOR ITS PART, AS STATED IN PARA 4 OF REF (B), THE US TENTATIVELY OFFERED TO PROVIDE TECHNICAL ASSISTANCE TO IAEA AND ROC IN RESOLVING TECHNICAL

DIFFICULTIES IN MAKING THESE MEASUREMENTS IN ORDER TO ALLEVIATE ADDED BURDEN ON IAEA AND COUNTER INER DIRECTOR CHIEN'S ARGUMENTS ON TECHNICAL DIFFICULTY AND IAEA MAN-POWER SHORTAGE.

4. ONE WAY OF EASING VERIFICATION BY MEASUREMENT WOULD BE TO USE FRESH FUEL FOR ALL OR LARGE FRACTION OF RELOAD CORE SINCE FRESH FUEL IS READILY VERIFIED. HOWEVER, SINCE THE ROC OFFICIALS HAVE STATED THAT THEY WISH TO USE PREVIOUSLY IRRADIATED FUEL, MORE COMPLEX AND TIME-CONSUMING MEASUREMENTS WILL NEED TO BE MADE. THE IAEA HAS EXPERIENCE IN MEASURING IRRADIATED TRR FUEL AND HAS MEASURED ABOUT 200 ELEMENTS IN THE COOLING POND. IF THE IAES IS STRAPPED FOR MANPOWER TO MEASURE THE APPROXIMATELY 180 FUEL ELEMENTS
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OF THE RELOAD CORE, THE US WOULD BE WILLING TO PROVIDE TECHNICAL EXPERTS AND/OR EQUIPMENT TO SHORTEN THE TIME REQUIRED FOR IAEA INSPECTOR PRESENCE. FYI. THE ROC HAS AGREED THAT THE US WILL CONTINUE TO BE AFFORDED UNLIMITED ACCESS TO ALL ROC NUCLEAR FACILITIES ON A CONTINUING BASIS. END FYI. ALTHOUGH THE MECHANISM FOR THIS SUPPORT IS FLEXIBLE (E.G., A TRILATERAL R&D EFFORT), US BELIEVES IT TO BE ESSENTIAL THAT THE MEASUREMENTS BE CONDUCTED UNDER IAEA AUSPICES.

5. MISSION IS REQUESTED TO SEEK FOLLOWING SPECIFIC INFORMATION FROM IAEA: (1) PROPOSED IAEA SCHEDULE FOR MEASUREMENTS, (2) PLANNED MEASUREMENT METHOD AND TIME REQUIRED PER MEASUREMENT, (3) US SUPPORT REQUESTED AND MECHANISM MOST SUITABLE TO IAEA.

6. RE PARA 3 OF REF (A), THIS IS THE FIRST TIME THAT THIS PURPORTED PROBLEM WAS RAISED BY THE ROC. UNLESS THIS MATTER IS OFFICIALLY BROUGHT UP BY THE ROC FOR RECONSIDERATION BY US, IMPLEMENTATION OF PREVIOUSLY AGREED PROCEDURE AS PER PARA 2 ABOVE IS EXPECTED. FYI. EVEN IF VERIFIABLE SEALS COULD BE APPLIED TO THE FUEL RODS, THIS WOULD NOT GUARD AGAINST UNDECLARED USE OF AVAILABLE CORE OR J-ROD POSITIONS. END FYI. COOPER

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